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MONTHLY REPORT

OF

THE AGRICULTURAL DEPARTMENT.

OCTOBER, 1866.

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MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE,
Washington, D. C., October, 1866.

The returns of local correspondents, up to the first day of October, verify, in all essential particulars, the statements respecting the crops contained in previous monthly exhibits.

The condition of corn has suffered some deterioration from early frosts and excessive rains, but the quantity of the crop is larger than the largest ever previously chronicled in the country. A final summary of its amount and quality will be given in the next report.

In the production of wheat, next to corn our most important cereal, our agriculture has been unfortunate for the past three seasons. The crops of 1862 and 1863 in the North were good, and exhibited a gratifying increase as compared with the crop of 1859. The year 1864 witnessed a slightly diminished product, followed by a further diminution in 1865, in quantity as well as in quality. Lest misapprehensions of the extent of this decreased supply should prevail, the returns and estimates of these years should be viewed in a group:

Estimate for twenty-two States.

	Bushels.
In 1859	132,934,782
In 1863	179,404,036
In 1864	160,695,823
In 1865	148,522,829

The estimate for the present year, now nearly complete, will not vary much from 143,000,000 bushels, showing a small percentage of decrease, which is fully compensated by the comparatively superior quality of the grain, as was predicted in a preceding number. This is ten millions of bushels more than the crop of 1859, and is within five millions of a product in proportion to the increased population.

The diminution in the South is more apparent. The estimates point to less than seventeen millions of bushels in the eleven States hitherto unreported—a fraction less than five-tenths of the crop of 1859.

It is worthy of remark, in connexion with the diminution of the three past seasons, that the wheat crop of England has been likewise deficient since 1864.

The California wheat harvest, of which little mention has been publicly made in connexion with the present crop, is excessive. In 1860 the product of this young State was nearly six millions of bushels. Now, it is seriously claimed by leading California agriculturists that the surplus for export will be nearly double that quantity.

It is evident that the entire wheat crop will exceed by several millions that of 1859, when the yield was reported at 173,104,924 bushels. Then there were five and a half bushels to each individual; in 1866 the estimates point to five bushels to each inhabitant. There is no ground, then, for apprehensions of scarcity, and little excuse, in the amount of the crop, for starvation prices.

The yield of oats is extraordinary, and the quality excellent. The indications point to an increase from 171,497,072 bushels in 1859 to 271,912,695 in 1866. It is the only crop in the South that maintains an equality with its last census exhibit.

Hay is less in quantity than in the previous year by from one to two tenths, but is better in quality.

An analysis of the southern returns up to October 1 do not warrant a reduction of the former cotton estimate much below one and three-fourths million of bales, though it is too early for final estimates. Increasing severity of damages from insects is reported.

The minor crops are duly considered in the body of the report.

ISAAC NEWTON,
Commissioner.

INSECTS INJURIOUS TO COTTON PLANTS.—NO. 4.

SOUTHERN GRASS-CATERPILLAR OR ARMY WORM.

Laphrygma machra.

There is another caterpillar also found in the cotton fields which has frequently been mistaken for the real cotton caterpillar, (*Anomis xylina.*) and which is commonly known by the trivial name of the grass-worm or caterpillar, owing to the circumstance of its feeding upon grass and weeds, although when pressed by hunger it will sometimes eat the leaf of the cotton plant. By some planters this caterpillar is known as the army worm, but must not be confounded with the more northern army worm, (*Leucania extranea,*) which sometimes appears in such immense numbers in the west, and also feeds upon grass, corn, and wheat.

These caterpillars were very numerous in the vicinity of Columbus, in Georgia, about the end of September and the beginning of October, 1854. They devoured grass, young grain, and almost every green thing which came in their path. Instances have been known in which, urged as they were by necessity and starvation, they actually devoured stacks of fodder that were stored away for winter consumption. Deep ditches cut in the earth to stop them were immediately filled up by the multitudes which fell in and perished, while eager millions still rushed over the trembling and half living bridge formed by the bodies of their late companions, bent on their mission of destruction and devastation.

The caterpillars do no essential injury to the cotton, especially when weeds abound, as they content themselves with the grass growing between the rows, and unless very numerous they cannot be classed among those doing much harm to the general crop, and are mentioned here principally as having been so frequently mistaken for the real cotton-caterpillar. When pressed by necessity, however, as has already been stated, they will feed upon cotton leaves. I raised about thirty of them upon this food alone, merely as an experiment, and they grew and perfected their transformation, although appearing to prefer a grass diet if it could be obtained. When about to change they formed cocoons of silk under stones, or in the ground near the surface, interwoven with particles of earth, and came out perfect moths from the 24th to the 30th of October; and as these specimens were kept in a room without artificial heat I conjectured that those in the open fields would appear about the same time.

At a plantation in the vicinity of Columbus, where the caterpillars were very numerous, and had already devoured all the grass on one side of a field, which was divided into two equal parts by a broad and sandy carriage road passing through the centre of it, the grass on the other side having been untouched, it was interesting to observe the operations of numerous colonies of ants that had formed their holes or nests in the road, and were lying in wait for any unfortunate grass-worm, the natural desire of which for a fresh supply of food should tempt it to cross this dangerous path. First, one ant more vigilant than the rest would rush to the attack, then another, and another, until the poor caterpillar, entirely covered by its pigmy foes, and completely exhausted in strength by its unavailing efforts to escape, was finally obliged to succumb to superior numbers and die as quietly as possible, when the carcass was immediately carried off by

the captors to their nests, or, when too heavy to be dragged away at once, they fed upon it as it lay in the road. This warfare was carried on every day as long as the grass-worms prevailed, and no doubt their numbers were diminished in this way to a considerable extent.

The grass-caterpillars, when in confinement, very often kill and devour each other; and, when one is maimed in the least, it stands a very poor chance for its life. Several intelligent planters state that, when the grass and weeds are entirely devoured, and no other vegetable food is to be found, they will attack each other and feed upon the still living and writhing bodies of their former companions. One grass-caterpillar, which was kept in confinement, although furnished with an abundance of green food, actually appeared to prefer to feed upon other caterpillars, no matter of what kind, so long as their bodies were not defended by long, bristling hairs, or spines.

The grass-caterpillar is from an inch and a half to an inch and three-quarters in length. A longitudinal light-brownish line runs down the centre, and two yellow lines along each side of the back, which is somewhat veined with black lines, and is of a dark color, marked with black spots, from each of which grows a short bristle, or hair. Below these yellow stripes the sides are of a dark color, almost black; beneath this extends a light-colored line, in which the spiracles are placed; the lower part of the body is of a dirty green, spotted with black; the head is black, marked with two lines of a yellowish color, forming an angle on the top; the body is somewhat hairy. This caterpillar has six pectoral, eight ventral, and two anal feet.

The above description applies only to the brightest colored specimens of the grass-worm, as they vary much in color and markings, some of them being almost black, and showing their stripes indistinctly. The chrysalis is brownish-black, and is formed in a cocoon of silk under the ground, the sand and small pebbles being so interwoven with it as to cause the whole cocoon to appear like an ovoid ball of earth; but it is never found webbed up in the leaves, as is the case with the true cotton-caterpillar, already described. The moth measures about an inch and one-fifth across the wings when they are expanded; the upper wings are gray, slightly clouded with a darker color, and a lighter spot or ring is faintly seen in the centre; the under wings are of a yellowish white, shaded with gray along the margin near the upper wings.

Specimens of these caterpillars were brought to me when at Savannah, in Georgia, and they were suspected to have injured the rice in that vicinity in the month of June. Colonel Whitner, of Tallahassee, in his interesting communication to this office, speaks of the grass-caterpillar as having stripped fields of grass, in 1845, and also as attacking the corn, sugar-cane and upland rice. It has likewise been said that an insect similar, if not identical with the grass-caterpillar, destroys the leaves of the sweet potato. Thus it appears to be almost omnivorous, and not choice in its selection of food, like the true cotton-caterpillar, which is believed to confine itself to the cotton-plant alone.

The grass-worm cannot be classed among those insects very injurious to cotton, although instances have been known where it has destroyed the foliage to some extent. It is more especially mentioned here as being found in cotton-fields, and often confounded with the true cotton-caterpillar. The same remedies are applicable to this insect as have been suggested for the boll-worm caterpillar, or any other night-flying moth.

Smith and Abbott, in their work on the insects of Georgia, figure an insect under the name of *Phalæna (Laphrygma) frugiperda*, which also feeds upon grass, wheat, and Guinea corn; and as their figures, although very highly colored, bear considerable resemblance to the grass-caterpillar, it may eventually prove to be the same insect.

OUR ROCKY MOUNTAIN AREAS.

WASHINGTON TERRITORY.—The following facts are condensed from our correspondence:

Washington Territory is divided into two portions, known as the eastern and western, by the Cascade mountains, and which differ as much from each other as do New York and Texas. The eastern portion is composed of mountains and valleys, sparsely covered on the hills with pine, and along the streams with cottonwood. The climate is what might be termed *extreme*, sometimes being quite warm, and at others equally as cold, but at all times dry. Almost the entire country is covered with a short bunch grass; and at the same time that it is surpassed by no country for summer grazing, it is well adapted for stock in winter by feeding for about two months. It produces, by irrigation, some corn, barley in abundance, wheat, oats, potatoes, &c., &c., excellent peaches and melons, some apples, pears, plums, and cherries, and all kinds of garden vegetables. The extreme eastern portion has gold mines which sustain a large mining population. The western region is exactly the reverse of the eastern in many respects, being densely covered with a body of the largest fir timber the world ever saw. The soil on the upland is generally clay, and produces fair crops when cleared. Clearing is considered out of the question at the present time, though the day will come when many farms will be made on the uplands. The river bottoms are numerous and have a rich alluvial soil unsurpassed by any State in the Union. The climate is damp and mild, there seldom being more than eight or ten *warm* days during the summer, and the same number of *cold* ones during the winter. The products are an unlimited quantity of the finest quality, comprising fir lumber and spars, wheat in abundance on bottom land, apples, plums, pears, cherries, and all kinds of berries without limit and of the very best quality. Coal in large quantities and of medium quality is to be found in many places; strong indications of gold, silver, lead, and iron, have been found in many places, but in such limited quantities that none of the metals have been worked as yet. Stock of all kinds do extremely well in both portions of the Territory, though sheep, and perhaps the Cashmere goat, are better adapted to the eastern portion. Puget sound and the various streams produce an endless variety of fish of the very best quality.

Up to January 1st of the present year there were but five inches of snow, which remained only two days. The lowest point reached by the thermometer in a northern exposure was 19°, and that only once.

This Territory is no exception to other regions. There are many there who would gladly leave could they dispose of their property to advantage. But our correspondent intimates that people (and especially families without means) who are willing to settle down and farm, can surely make a good living. In a few years, by the aid of a generous government which *gives* land to all, they will have acquired a good home and many of the luxuries of life. Washington Territory is not so bad a place to make a fortune in as many imagine.

WALLA-WALLA.—A correspondent in Walla-Walla valley, latitude 46° north, reports a thriving state of affairs in his valley, for which he claims a climate similar to that of the latitude of 38° on the Atlantic coast. In the vicinity of rich gold deposits, the neighboring population is composed largely of miners. A few years since the most lucrative field culture yielded large returns in oats and barley, "a perfect mine of treasure." More recently the demand for these products has been interfered with by the settlement and cultivation of valleys nearer the richest mines, and wheat has become the principal crop.

Fearing competition in this direction, and casting about for other sources of agricultural prosperity, he says: "Our valley is particularly well adapted to

the production of wool and the manufacture of woollens. The streams that meander through our valley afford a never-failing water power upon each section of land through which they pass. The foot-hills and mountain sides are the natural pasture grounds for numerous flocks of sheep which are fast being brought into the country. A vast amount of untillable land is well adapted to the rearing of cattle, horses, and mules, and for all these there is a good demand."

He claims a sufficient quantity of arable land to meet the wants of a large manufacturing population, and deplores the present necessity for the double tax in exporting the raw material and importing manufactured fabrics. There is timber within a few miles. The valley extends into Oregon, of which portion the products are identical with the settlements in Washington, and about one-fifth as much in amount. The following statistics of Walla-Walla county are given:

Taxable property	$1,883,174
Total population	3,334
Legal voters	1,050
Number of horses	2,748
Number of mules	1,098
Number of cattle	7,089
Number of sheep	7,819
Number of hogs	4,377
Acres under corn	3,291
Acres under wheat	9,573
Acres under oats	4,026
Acres under barley	1,034

There is no rain from June 20 to September 1. Irrigation is not deemed necessary for field crops, and is rarely employed for gardens.

Montana Territory.—A correspondent writing from Helena City gives a lively picture of the Territory—its physical features, agricultural products, mineral wealth, &c. It lies between the 111th and 104th degrees west longitude, and the 49th and 44th degrees north latitude. It presents an infinite diversity of scenery, about two-thirds being mountainous. Nearly the whole western and part of the southern boundary are formed by the Bitter Root river, and by the Rocky mountains, from which descend innumerable streams at intervals of unsurpassed richness and beauty. Large rivers, clear lakes, high mountains, and stretches of fertile plain, often covered with luxuriant growths, constantly alternate as the traveller proceeds. While the mountains are rich in gold and silver, the bottoms along the streams afford a soil of unusual fertility. Sulphur springs, both hot and cold, abound. Craters of extinct volcanoes, and mountain sides covered with lava, are frequent. Organic remains of both plants and animals are often beneath the surface, presenting in species now extinct a rare field of research. The natural productions of the Territory may almost be said to embrace those plants and cereals which are grown in less favored regions by cultivation alone. Wheat grows luxuriantly and yields abundantly. The season is too short for Indian corn. Potatoes and other vegetables yield in profusion. Hay is made in great quantities, and sells at from $50 to $100 per ton. The climate is peculiar, being in the Bitter Root valley, latitude 46 degrees north, the same as on the Atlantic coast in latitude 40 degrees. Although the temperature is generally even, short periods of intense cold sometimes occur.

The population now equals 30,000 souls. According to the census returns for 1865, Gallatin county has a population of 2,000, with 15,000 acres under cultivation, yielding last year 20,000 bushels of wheat, 5,000 bushels of oats, 15,000 bushels of potatoes, and $153,000 in gold. Edgerton county, population 8,000, gave $5,000,000 for the year. Madison county gives, with a popu-

lation of 10,000, 5,000 acres under cultivation, 2,500 miners employed, and $700,000 in gold. By the auditor's report it appears that upon December 1, 1865, there were in the Territory: oxen, 4,325; horses, 1,207; mules, 464; cows and calves, 1,876; sheep, 1,769; hogs, 249. Total value of property taxed, including capital in merchandise, manufactures, &c., $2,679,039. Number of acres of land claimed, 82,706, valued at $128,369.

The chief wealth of the Territory consists in the mineral deposits, which vie in richness with those of California. "The whole of the western half of this Territory is one vast mine of gold." Silver is found both in a metallic state, and also disguised as chlorides, sulphurets, &c. Two kinds of mining are practiced: one by washing sand and gravel for particles of gold; the other by crushing the auriferous quartz and employing the process of amalgamation with mercury. The latter is the most remunerative when conducted upon a large scale. The mountains are crossed by parallel veins of quartz containing gold, silver, copper, and lead. Iron also exists in large quantities. Masses of pure copper have been found similar to the ores of Lake Superior. One immense lode has been discovered called the "Big lode," some fifty miles long, and varying in width from fifty to one hundred feet. It assays $40 to the ton of rock, and it is supposed that all smaller lodes will eventually be traced into it. Over four thousand lodes have been staked out and recorded. They assay from $30 to $1,000 per ton. Few mills have been started, but those in operation pay respectable dividends. The average yield is $1,000 to a stamp per week.

As would be expected, prices are very high. Goods are necessarily transported across the plains, from Omaha, at great expense. The trade from Salt Lake consists chiefly of flour and salt. Tea and sugar are brought from San Francisco by water to Portland, and thence through Hell Gate Pass by pack animals. Soon a line of steamers, running up Columbia river as far as the Pend d'Oreilles lake, will afford better means of communication. A road is building from Helena to the mouth of the Muscle Shell river, the head of steamboat navigation on the Missouri river. A road recently surveyed from Sioux City to Virginia City will afford a ready communication with the States, when Indian hostilities shall cease.

The first reports of the wonderful wealth of Montana caused a great influx from all quarters. The offscourings from California, Nevada, Colorado, and the Boise Basin, poured in in alarming numbers. The roads became unsafe. Men were murdered in daylight. The "road agents" were so bold and united that they would even ride into stores, empty their revolvers at the crowd, and gallop off. Neither property nor life was secure, and business was seriously impeded. At last a few resolute men formed a vigilance committee and began by executing five of the leaders—desperate ruffians—at East Bannock. After frequent repetitions of this summary method of treatment, order was restored, and has since been maintained.

Our correspondent closes with a glowing augury for the future of Montana. Alluding to the fact that but a small portion of the gold territory has yet been prospected; that but a fraction of the richest lands are under cultivation; and that the many other sources of great wealth, together with the unequalled climate and natural advantages, have not yet received due attention, he says: "When our facilities for transportation are improved, and the screaming locomotive is heard in our valleys and along our water-courses; when permanent villages spring up on every hand, with their churches and school-houses sowing the seeds of righteousness and truth in this most wonderful region, then the older sisters will be proud of this addition to the Union, and will acknowledge as the Queen of the West the peerless, rock-embraced, snow-crowned princess *Montana*."

PRESERVATION OF TIMBER.

A discussion, in a previous number of the Monthly, of the best practicable modes of preserving timber, has called forth suggestions from several correspondents. The following, from our principal crop observer in Whiteside county, Illinois, is presented for the consideration of the public:

"The preservation of timber by some cheap and practical process within the reach of all, has engaged the attention of scientific men for many years. Stripping off the bark at certain periods, felling the trees in certain months, seasoning the timber, the steam process, and many other experiments, have been resorted to with varied, and, in most cases, unsatisfactory results. With fence-posts such experiments as charring and applying coal-tar have been made, but, as a general thing, the life of the timber is gone in a period of three to seven years, if exposed to wet and dry weather alternately. It is pretty generally conceded that the decay of timber is attributable to the sap contained in its "*capillary ducts*" or *sap pores;* that timber which is the most porous, as cottonwood and poplar, with heavy flow of sap and quick of growth, decaying the soonest. It is a well-founded fact that all timber contains within itself the elements of its own destruction, and when severed from its root and deprived of its active life-sustaining principle, the sap filling the pores of the wood, and capillary attraction no longer actively existing, it becomes stagnant, fermentation takes place, and destruction begins. The seasoning of some kinds of timber, if kept dry, arrests its decay, the watery parts of the sap in the capillary ducts becoming evaporated. But it seems as though the germ of decay is yet retained, for, when exposed to moisture, like "bakers' yeast," it is brought into active life and decay again commences. The destruction of the sap, or its entire expulsion from the pores of the wood, it seems, then, is of the greatest importance to a thorough preservation of the timber. For the past two years it has been with much interest that I have watched the progress of experiments made by a gentleman of much genius and skill residing in this vicinity, in his efforts at preserving timber. His method consists in boring one or more holes diagonally with the sap ducts or canals, filling with a white composition, and plugging up the holes, the entire cost of which is two cents for posts, and ten cents for railroad ties. I made an examination a short time ago of a white poplar post and a hemlock railroad tie which he had operated upon two years ago or more. Both were in a perfect state of preservation, the wood sound, compact, and solidified. The application of a microscope of two hundred diameters to sections of the wood, in each case disclosed the fact that the sap pores were filled with the composition, thus perfectly embalming it and causing it to look as though it might last for all time to come. This process of preserving timber is patented, and is called "foremanizing," in honor of B. S. Foreman, its inventor."

Through United States Consul J. M. Bailey, esq., of Glasgow, the following recommendation has been communicated by Mr. John Reid, a successful timber merchant:

"Permit me to mention what was done long ago by the Romans, and can be done yet at very little expense and trouble, viz: charring the wood. If the fencing is to be of hard wood, let it be cut at the proper season, well dried of natural sap, and, if circumstances permit, perhaps the best way is to have a fire constructed for the purpose. Give the timber a slight coat of tar or oil to facilitate the process, which, if properly attended to, is both quick and effective."

AGRICULTURAL STATISTICS OF IRELAND.

The collection of official statistics of agriculture in Ireland is intrusted to the constabulary and metropolitan police, numbering 4,000 enumerators. The collection of facts for 1865 was commenced in June, and continued eight weeks, in which time 600,000 separate holdings were visited. The registrar general, William Donelly, has made his preliminary report, from which the following facts are taken:

The total acreage under all crops this year was	5,519,678	acres.
The total acreage under all crops in 1865 was, (revised numbers)	5,648,403	"
Showing a decrease in the extent under crops in 1866 of	128,725	"

The crops which diminished in area this year are—

	Decrease.	
Cereals:	*Acres.*	*Acres.*
Oats	47,580	
Barley	26,564	
Bere and rye	99	
Beans and peas	2,118	
		76,361
Green crops:		
Potatoes	15,841	
Turnips	17,091	
		32,932
Meadow and clover		77,998
Decrease on the foregoing crops		187,291

The crops which increased in acreage in 1866 are—

	Increase.	
Cereals:	*Acres.*	*Acres.*
Wheat		33,455
Green crops:		
Mangel and beet	5,749	
Cabbage	2,824	
Carrots, parsnips, and other green crops	2,661	
Vetches and rape	1,630	
		12,855
Flax		12,226
Increase on the foregoing crops		58,566
Making net decrease in the area under all crops		128,725

Although the foregoing statement shows a decrease of 128,725 acres in the total extent under crops in 1866, there was an increase in the extent under "grass" to the amount of 210,425 acres, and a diminution in the area under "bog and waste unoccupied" of 86,664 acres. Woods and plantations also show an increase this year, and fallow a decrease. (See table.)

The following abstracts exhibit the acreage under each crop in 1865 and 1866, and the increase or decrease in the latter year:

Abstract of cereal crops.

	1865.	1866.	Increase in 1866.	Decrease in 1866.
	Acres.	*Acres.*	*Acres.*	*Acres.*
Wheat	266,989	300,474	33,485	.....
Oats	1,745,228	1,697,648	.....	47,580
Barley	177,102	150,538	.....	26,564
Bere and rye	10,091	9,992	.....	99
Beans and peas	16,899	14,781	.....	2,118
Total	2,216,309	2,173,433	33,485	76,361

Decrease in cereal crops in 1866 ..... 42,876 acres.

Abstract of green crops.

	1865.	1866.	Increase in 1866.	Decrease in 1866.
	Acres.	*Acres.*	*Acres.*	*Acres.*
Potatoes	1,066,260	1,050,419	.....	15,841
Turnips	334,212	317,121	.....	17,091
Mangel wurzel and beet root	14,478	20,218	5,740	.....
Cabbage	33,622	36 446	2,824	.....
Carrots, parsnips, and other green crops	24,130	26,791	2,661	.....
Vetches and rape	29,466	31,096	1,630	.....
Total	1,502,168	1,482,091	12,855	32,932

Decrease in green crops in 1866 ..... 20,077 acres.

GENERAL SUMMARY.

	Acres.	Acres.
Decrease in cereal crops in 1866	42,876	
Decrease in green crops in 1866	20,077	
Decrease in meadow and clover in 1866	77,998	
		140,951
Increase in flax in 1866	.....	12,226
Total decrease in the extent of land under crops in 1866	.....	128,725

There has been this year a small increase in the acreage under wheat in almost every county, amounting to 33,485 acres; and that of the "cereals" and "green crops." Oats and potatoes are still, as formerly, the most extensively grown, occupying respectively 1,697,648 and 1,050,419 acres.

The extent under crops, grass, fallow, woods, and plantations, and bog and

waste unoccupied, in 1865 and 1866, are shown by provinces in the following table:

Provinces.	Years.	Extent under crops.	Grass.	Fallow.	Woods and plantations.	Bog and waste, unoccupied.	Total.
		Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Leinster	1865	1,633,565	2,439,106	12,485	104,256	648,264	4,837,676
Do	1866	1,598,150	2,472,144	12,018	104,788	650,576	
Munster	1865	1,384,454	3,178,148	6,851	108,951	1,256,383	5,934,787
Do	1866	1,315,425	3,277,877	7,491	111,552	1,222,445	
Ulster	1865	1,895,715	2,129,591	6,646	57,971	1,224,344	5,314,267
Do	1866	1,881,362	2,183,227	6,411	59,506	1,183,761	
Connaught	1865	734,669	2,044,788	2,969	50,313	1,400,455	4,233,194
Do	1866	724,741	2,068,810	2,140	51,500	1,386,003	
Total	1865	5,648,403	9,791,633	28,951	321,491	4,529,446	20,319,924
	1866	5,519,678	10,002,058	28,060	327,346	4,442,782	

PERCENTAGE OF AREA IN FORESTS.

The following statement of the proportions of land in forests in the different countries of Europe is made on the authority of the German writer Rentzsch:

	Per cent.	Acres per head of population.
Norway	66.0	24.61
Sweden	60.0	8.55
Russia	30.90	4.28
Germany	26.58	0.6638
Belgium	18.52	0.186
France	16.79	0.3766
Switzerland	15.0	0.396
Sardinia	12.29	0.223
Naples	9.43	0.138
Holland	7.10	0.12
Spain	5.52	0.291
Denmark	5.50	0.22
Great Britain	5.0	0.1
Portugal	4.40	0.182

The proportionate area of forests to the total area of the United States must be somewhat more than that of Russia. Exclusive of the great plains, the western prairies, the forestless portions of oak openings, the glades of the Alleghanies, the lakes, and the cultivated area of the United States, the forests are reduced quite as much as is compatible with true public economy, and safe and healthful climatic conditions. West of the Mississippi, the scarcity of forests depreciates by unnumbered millions the value of that vast area. East of that river, and north of 38°, the forest areas cannot be materially curtailed without serious risk, some portions requiring new forest plantations, and others admitting of judicious thinning or clearing. In the South, which is nearly covered with forests, some diminution of the forest area is admissible, while indiscriminate clearing might occasion radical changes in climate and production more destructive in their character than the same decrease of forests in higher latitudes. Estimating the forest area in the United States at thirty-three per cent., and our population at 35,000,000, the number of acres per head would be eighteen, thus exceeding every European country except Norway.

WHEAT EXPERIMENTS IN SCOTLAND.

In 1863, the Highland and Agricultural Society of Scotland offered a premium for experiments to determine the relative productiveness in grain and straw of several popular varieties of white wheat. As Scottish wheat is valueless for sowing here, it is unnecessary to record the comparison; but the general facts, showing the uniformly large yields, the fertilizing and culture, and the extreme length of the season of growth, will be found interesting and suggestive. The yield is by no means as large as is sometimes attained, and it is not very much greater than the average result secured by good farmers. The exact yield and product of each variety are not given, but the range of bushels and money returns are noted in each experiment. Below we give a brief synopsis of the statements of the three leading competitors:

Report of JOHN RICHARDSON, *Drylawhill, East Lothian.—Crop of* 1864.—Soil a heavy loam with retentive subsoil. Previous crop, potatoes, manured on the stubble with farm-yard dung and mixture of guano and bones in drill; no additional manure being given the wheat. Seed hand-sown 20th of October, at the rate of two bushels and three pecks per acre. All the varieties appeared above ground on the 17th of November, came into ear about the 15th of June, and the crops were harvested on the 21st and 22d of August. The summer was warm and dry. Product of the four varieties per acre: good grain, from 34 bushels 60 pounds to 38 bushels 61 pounds; light grain, from 50 to 67 pounds; straw, from 3,190 to 3,584 pounds. While the calculations are based upon the estimate of 62 pounds to the bushel, the actual weight was from 62 pounds to 62¾. Value of grain, $9 to $9 75 per quarter of eight bushels.

Crop of 1865.—Soil a heavy loam. Previous crop, beans and potatoes; the manure being applied in the autumn across the ridges. Seed taken from the crop of the preceding year, and sown November 5, at the rate of two bushels and three pecks to the acre. Plants appeared December 1, came into ear about the 12th of June, and the crop was cut on the 18th of August. Product: good grain, from 33 bushels 2 pounds to 39 bushels, 36 pounds; light grain, from 96 pounds to 127 pounds; straw, from 2,940 pounds to 3,472 pounds. Actual weight of grain, from 62 pounds to 63½ pounds.

Report of R. J. THOMSON, *Grange, Kilmarnock.—Crop of* 1864.—Soil a dark brown clay loam, 12 inches deep, with subsoil of yellow clay containing a few boulders. Green crop grown the preceding year. The product per acre ranged from 32 bushels 56 pounds to 35 bushels 40 pounds. Actual weight, from 59 to 62 bushels. Value of the crop, including straw, from $58 to $63 per acre.

Report of PHIPPS TURNBULL, *Little Pinkerton, Dunbar.—Crop of* 1864.—Soil a gravelly loam of uniform quality. Previous crop, potatoes, manured with 15 tons of farm-yard dung to the acre on the stubble of the preceding crop of barley, and 4½ hundredweight per acre of a mixture of artificial manures in the drill. Seed sown November 16, the land having been previously manured with five hundredweight per acre of finely ground rape dust. Product: grood grain, 30 bushels 31 pounds to 39 bushels 15½ pounds; light grain, 4 to 5 bushels; straw, from 3,047 pounds to 3,866 pounds. Total value, from $63 to $83 per acre.

Crop of 1865.—Soil, previous cropping and management the same as last year. Seed taken from the product of the varieties sown in 1864. Previous to sowing the ground was manured with a mixture of rape, guano, and bones at the rate of 2½ hundredweight to the acre. Product: good grain, from 35 to 43 bushels; light grain, from one bushel and one peck to two bushels and one peck; straw, from 2,463 pounds to 3,162 pounds. Total value, from $72 to $87 per acre.

THE CROPS OF PRUSSIA.

From a communication of Consul H. Kraismann, consul at Berlin, to the State Department, we are permitted to make the following extracts, showing a favorable condition of the crops of Prussia for the present season :

"I beg to transmit herewith a brief account of this year's crops and harvest in Prussia, which may not be wholly without interest to our agricultural department. Reports received from all parts of the Prussian monarchy represent the yield as fully an average one. Rye, in grain, even exceeds this ; the yield in straw also being very fine. Wheat has suffered considerably from insects and other casualties ; still, there is a fair average crop. Barley yields much more than an average crop. Of oats there is a very rich and full crop. Potatoes promise a very fine and full harvest, there being no substantial sign of the rot or disease as yet. The same is true of beets, the sugar beet crop promising particularly well. There has been a fair yield of meadow hay, but the first harvest of clover hay has been poor, and the second will be better. The total result gives Prussia all she wants for her own consumption, and leaves a very considerable quantity for export."

In the first quarter of the present year, as given in a Calcutta circular received through the State Department from the port of Calcutta, there were shipped 104,203 cowhides and 32,701 buffalo hides; in the second quarter, 41,500 cowhides and 15,358 buffalo hides. Of sheepskins, 21,500 in the first quarter and 3,000 in the second. Of goatskins, 289,500 in the first quarter, and 312,040 in the second.

SOURCE OF BRITISH REVENUE.

The opinion is prevalent among superficial observers who have heard the phrase, "British free trade," that but little revenue is derived from customs. The truth is, a larger proportion is obtained from customs than from excise, and almost as much as from the excise, stamps, and income tax together. In proportion to "internal revenue taxes" the United States income from customs is far less than in Great Britain. The following statement shows the various sources of British revenue in the years ending June 30, 1865 and 1866 :

	1865.	1866.
Customs	$111, 520, 000	$106, 845, 000
Excise	97, 795, 000	100, 335, 000
Stamps	47, 405, 000	47, 765, 000
Taxes	16, 335, 000	17, 105, 000
Property tax	38, 495, 000	28, 885, 000
Post office	20, 550, 000	21, 750, 000
Crown lands	4, 057, 500	1, 605, 000
Miscellaneous	14, 388, 780	14, 340, 000
	350, 546, 280	338, 630, 000

BRITISH POLICY.

It is suggestive to note the character as well as the amount of British exports and imports.

The aggregate value of the exports of British and Irish produce and manufactures during the first eight months of the present and two previous years was as follows:

1864	$543, 581, 095
1865	512, 003, 480
1866	626, 329, 100

During the first seven months the imports of foreign and colonial produce were valued as under—

1864	$595, 342, 145
1865	471, 525, 310
1866	674, 356, 435

These imports are almost entirely raw products. The exports, on the contrary, were, with few and small exceptions, manufactured goods, including a great variety of cotton, woollen, linen, and other textures; iron, steel, copper, and their manifold products; leather, saddlery, harness; carriages, furniture, and upholstery; glass, earthenware, and porcelain; books, &c. The cotton manufactures, for instance, exported in eight months exceeded $200,000,000.

The policy of Great Britain is to import raw products, but no manufactures, and to export only manufactured products bearing the added value of skilled labor upon the original cost of raw material.

INSECTS.

The following are among the notes of correspondents pertaining to insect depredations:

Winnebago county, Illinois.—The potato crop has been injured by the bug in some places, while the rot is damaging it generally. [This bug is probably the ten-lined spearman—*Doryphora decemlineata.*]

Jackson county, Kansas.—On the 5th of September locusts appeared in such numbers that they ate all the garden vegetables and corn fodder, and the sowing of winter wheat has been delayed thereby.

Bourbon county, Kansas.—The invading grasshopper army has just reached this county, and is rapidly destroying the wheat sown this fall; but other crops will not be injured, owing to their matured state.

Butler county, Kansas.—The grasshoppers have destroyed most all the vegetables and much injured the corn crop. The ground is full of their eggs, and if one-tenth of them shall hatch out next spring they will eat every "green thing" and fill the earth and air.

Greene county, Alabama.—The planters' prospects are gloomy indeed. The boll worm [*Heliothis armigera*] and caterpillar [*Anomis xylina*] have nearly ruined the crop.

Washington county, Mississippi.—The cotton crop is being damaged by the army worm, [*Anomis xylina,*] and on some plantations they have stripped every green thing, while on others, being in smaller numbers, they have fed and "webbed up," and are now moths in chrysalis.

Yalabusha county, Mississippi.—The season has been the most remarkable one in the memory of our planters. All crops have failed, more or less. The cotton caterpillar [*Anomis xylina*] made its appearance about two weeks since, and has done a great deal of damage in connexion with the rains of September. The regular boll worm [*Heliothis armigera*] has also been at work, and in some places done much injury to the crop.

Jackson county, Florida.—Cotton has come to a sudden termination this month, the caterpillar [*Anomis xylina*] having cut off at least one-half of a badly cultivated crop, and not only reduced the quantity, but depreciated the quality.

Tensas county, Louisiana.—The second crop of cotton-caterpillars [*Anomis xylina*] commenced their ravages about the 5th of September, and by the 15th the entire crop of the county was stripped of its leaves.

CASUAL NOTES.

Flax in Ireland.—The official returns of flax acreage of Ireland, for 1866, exhibit an increase of 11,966 acres over the area of 1865. The following is the total exhibit for sixteen years:

	Acres.		Acres.
1851	140,536	1859	136,282
1852	137,008	1860	128,595
1853	174,579	1861	147,957
1854	151,403	1862	150,070
1855	97,055	1863	214,099
1856	106,311	1864	301,693
1857	97,721	1865	251,433
1858	91,646	1866	263,419

Grapes in North Carolina—Stanley county.—The grapes could not resist the cold nights in June. The finest foreign varieties rotted, and the foliage of the hardiest native vines perished from mildew. The Scuppernong alone seems to bid defiance to the inclemency of the season.

An apple congress.—The French Pomological Congress began its eleventh session at Melun on the 14th September. Its object is to induce the rejection of all mediocre and bad sorts of apple trees, and to promote the cultivation of the finer and more profitable kinds.

Medical properties of the teasel.—M. Beullard informs the French Academy that the leaves of the teasel, *(Dipsacus sylvestris,)* pounded and applied to wounds and bruises, has a powerful action in the prevention and cure of gangrene. He removes mortified flesh, washes the wound in chlorurated water, and then applies a poultice of the leaves. He states that he used this remedy with success for fifteen years.

Odessa grain market.—Dates have been received at this department to September 20. Notwithstanding the news of a reduction in the Marseilles market, transactions were brisk during September 1–20, and reached the number of 196,416 bushels removed, and 220,224 bushels to be delivered.

Wheat	184,512	bushels.
Rye	8,928	"
Flaxseed	1,190	"
Soft wheat to be delivered	160,704	"
Rye to be delivered	35,712	"
Flaxseed to be delivered	74,832	"

The first qualities of wheat were quoted at from $1 30 to $1 50; rye, 50 to 56 cents; maize, 69 to 72 cents; barley, 59 to 60 cents; oats, 47 to 50 cents.

Insects in France.—It is reported that insects in portions of France are unusually numerous and destructive this season; that especially the hills from Campigney to Sency, from which large supplies of apples, cherries, and plums have been drawn, are producing little of any kinds of fruit, in consequence of the destruction of the nests of small birds by the children of peasants.

Lumber from Washington Territory.—According to information received from Oakland, Mason county, this county turned out during the past year 15,000,000 feet, at $4 per thousand for rough timber, making a total income of $60,000 from this source.

CROP RETURNS.

The returns of correspondents, dated October 1, indicate the average amount and quality of wheat produced, compared with the product of 1865, (compared with 1860 in the case of the States hitherto unrepresented;) the comparative amount of old wheat on hand in the several States; the product and quality of oats, rye, and barley, compared either with yields of 1865 or 1860, as in the case of wheat; the comparative acreage and condition of the bean and pea crop; the condition of sorghum, buckwheat, potatoes, tobacco, and cotton, and the average number of fattening cattle in the several States in comparison with 1865 in the North and with 1860 in the South.

Table showing the condition of the crops on the first day of October, 1866.

States.	WHEAT.		OATS.		RYE.		BARLEY.		HAY.	
	Average amount of crop compared with 1865.	Average quality compared with 1865.	Average amount of crop compared with 1865.	Average quality compared with 1865.	Average amount of crop compared with 1865.	Average quality compared with 1865.	Average amount of crop compared with 1865.	Average quality compared with 1865.	Average amount of crop compared with 1865.	Average quality compared with 1865.
Maine	11.6	10.8	11.3	11.1	11.6	11.	10.1	10.1	6.7	9.7
New Hampshire	11.	10.5	11.	10.	11.	10.2	10.3	10.1	8.	10.
Vermont	11.	10.7	11.5	9.5	10.2	10.	10.4	10.	8.7	10.
Massachusetts	9.1	9.5	10.7	10.5	9.7	9.7	10.	10.	8.2	10.3
Rhode Island	10.	10.	11.	11.	10.3	10.	11.	11.3	8.3	9.
Connecticut	10.3	10.3	11.6	12.	10.	10.	10.	10.	8.6	10.6
New York	10.6	10.3	11.1	10.	10.	10.	10.3	10.	9.	10.
New Jersey	10.1	11.2	10.3	11.	11.3	10.5	10.	10.	8.	10.
Pennsylvania	8.7	10.7	11.8	10.5	10.	10.2	10.3	10.	8.	10.5
Delaware	13.	15.6	12.3	11.3	11.3	11.6	13.	12.	10.	12.3
Maryland	8.4	12.5	11.5	11.	10.	10.4	9.5	10.	8.	10.
Virginia	4.4	9.7	12.	11.	8.	9.4	.....	.....	7.	9.5
North Carolina	6.7	9.4	10.6	11.2	8.5	9.5	8.5	9.5	8.5	10.
South Carolina	4.	7.7	7.	9.5	6.	9.2	.....	.....	8.4	10.
Georgia	5.	7.7	8.	10.	6.	9.3	8.	9.5	11.	10.
Florida	.....	.....	4.	4.	.....	.....	.....	.....	8.5	7.
Alabama	5.4	8.1	7.3	9.5	6.	10.	6.2	9.	13	9.3
Mississippi	4.4	6.	4.6	7.	6.	7.7	5.7	11.3	9.5	9.
Louisiana	.....	.....	10.	10.	.....	.....	.....	.....	10.	10.
Texas	11.3	9.3	11.	10.	11.	10.4	9.	10.	12.6	13.1
Arkansas	6.1	8.	6.5	10.	5.	7.1	15.	10.	8.1	9.1
Tennessee	7.3	9.	13.1	11.6	9.	9.6	8.	10.3	9.8	10.2
West Virginia	5.4	8.5	13.2	11.	9.	10.2	11.8	9.7	9.6	9.1
Kentucky	7.4	12.6	11.7	10.9	8.8	10.2	8.5	10.	9.	9.8
Missouri	12.	13.5	13.8	12.9	10.2	11.	10.5	11.2	12.6	12.9
Illinois	11.3	13.5	10.7	10.4	8.	10.5	9.8	10.2	9.2	10.7
Indiana	7.	13.3	12.6	11.2	9.3	10.4	9.4	10.4	8.6	11.
Ohio	5.8	10.7	11.7	10.5	8.6	10.	8.3	10.	8.6	10.8
Michigan	9.	11.7	11.4	10.	10.	10.	10.7	10.2	10.1	10.1
Wisconsin	10.	7.8	9.3	8.5	9.8	9.6	10.2	9.3	11.9	9.5
Minnesota	8.6	8.2	10.	8.9	10.6	9.8	10.2	9.4	11.4	10.4
Iowa	11.5	11.7	10.5	10.8	9.8	10.5	11.1	10.5	11.6	10.7
Kansas	13.6	14.6	12.9	11.1	11.2	10.4	10.9	11.1	10.3	10.3
Nebraska Territory	15.5	14.9	13.4	12.8	10.7	11.7	13.	13.4	10.1	9.5
Utah Territory	11.2	9.5	10.8	10.	10.	10.	11.2	10.4	11.8	10.5
Colorado Territory	40.5	13.4	29.2	13.	20.	14.	18.3	11.7	12.4	11.4

Table showing the condition of the crops, &c.—Continued.

States.	Acreage of beans compared with 1860.	Condition of the same.	Acreage of peas compared with 1860.	Condition of the same.	Acreage of peas sown for forage compared with 1860.	Condition of corn crop, October 1.	Condition of the sorghum crop, October 1.	Condition of the buckwheat crop, October 1.
Maine	10.	8.6	10.	9.6	10.	9.4	10.	10.3
New Hampshire	9.1	9.	9.2	9.	10.	9.4	------	10.3
Vermont	10.	9.	10.	9.7	10.	8.	------	9.
Massachusetts	9.8	9.4	10.2	9.6	10.	9.5	7.5	11.
Rhode Island	9.	10.	10.	10.	--------	10.	------	10.
Connecticut	10.	9.6	10.	10.	10.	10.2	10.6	12.
New York	9.3	9.	9.8	9.6	9.6	8.5	8.5	10.7
New Jersey	10.2	10.1	10.1	10.2	9.	10.	10.3	10.
Pennsylvania	9.6	10.	10.	10.	10.	10.	10.	10.5
Delaware	10.	10.	10.	10.	--------	11.6	11.	10.3
Maryland	10.	10.	10.	10.	10.	11.	10.	10.
Virginia	8.	9.7	7.	9.	6.4	8.3	9.	11.
North Carolina	9.	9.	8.3	8.	8.7	7.2	7.5	8.3
South Carolina	10.	5.	6.	5.5	6.	3.	2.	------
Georgia	8.4	8.	6.2	7.5	6.4	5.	6.5	3.
Florida	10.	10.	7.	7.7	6.	8.	------	------
Alabama	8.	9.	7.6	8.2	7.	5.6	7.	10.
Mississippi	7.5	9.5	5.3	7.3	5.	4.	5.	3.5
Louisiana	--------	------	--------	------	--------	6.	------	------
Texas	11.5	10.7	12.	10.7	10.5	10.7	11.7	------
Arkansas	5.2	10.	4.3	9.	6.	9.4	11.	10.
Tennessee	9.5	9.3	8.2	9.6	7.5	8.7	9.	9.9
West Virginia	9.9	9.7	9.9	9.5	10.5	11.	10.	11.6
Kentucky	10.2	10.	10.2	10.	9.3	10.5	10.2	10.
Missouri	9.6	9.5	9.7	9.2	10.	8.4	9.1	8.3
Illinois	9.5	8.9	10.4	10.	10.1	8.7	8.5	9.
Indiana	9.5	9.1	10.4	9.8	10.6	10.8	9.7	11.1
Ohio	9.8	9.5	10.	10.	10.3	9.6	10.	10.9
Michigan	10.9	9.8	11.	9.9	11.5	9.1	9.1	10.3
Wisconsin	8.7	8.6	10.7	9.3	10.9	6.7	7.5	7.6
Minnesota	9.6	8.4	10.	9.4	10.5	6.1	5.6	7.
Iowa	9.5	9.1	10.3	9.4	10.6	8.2	7.7	8.4
Kansas	12.1	9.1	11.2	9.9	12.	8.8	9.3	7.6
Nebraska Territory	9.3	8.3	11.6	9.4	10.	7.3	9.2	6.5
Utah Territory	18.6	10.2	19.	10.8	--------	11.3	9.3	10.
Colorado Territory	23.3	15.	25.	17.5	12.	10.8	12.	10.5

Table showing the condition of the crops, &c.—Continued.

States.	Condition of the potato crop, October 1.	Condition of the tobacco crop, October 1.	Condition of the cotton crop, October 1.	Average proportion of the cotton crop lost by insects.	Average number of fattening cattle compared with 1865.	Average condition of same.	Average amount of old wheat compared with 1865.
Maine	11.	8.6	.....	.....	9.3	10.	10.
New Hampshire	11.	.....	.....	.....	9.	10.	9.
Vermont	9.	9.3	.....	.....	9.2	10.	9.
Massachusetts	10.	9.2	.....	.....	8.2	10.2	9.3
Rhode Island	9.7	9.	.....	.....	7.7	10.1	.....
Connecticut	10.2	10.	.....	.....	10.2	10.	10.
New York	10.	9.6	.....	.....	9.5	10.2	9.
New Jersey	9.3	9.7	.....	.....	9.3	9.7	9.
Pennsylvania	11.	9.7	.....	.....	9.3	10.	7.6
Delaware	10.	10.	.....	.....	10.3	11.3	11.
Maryland	10.	10.	.....	.....	10.2	10.2	8.
Virginia	9.3	9.7	9.	3.	5.5	9.5	2.2
North Carolina	9.7	10.5	8.3	2.6	8.	10.	6.
South Carolina	5.7	5.	3.8	1.	7.	10.	2.
Georgia	8.5	9.	4.	4.1	6.	9.3	3.5
Florida	9.2	7.3	6.5	4.2	9.	10.3	.....
Alabama	9.5	11.7	4.1	2.2	5.2	9.5	5.
Mississippi	9.	7.1	4.	3.	7.3	9.3	5.4
Louisiana	7.3	8.5	6.	5.	5.	10.	.....
Texas	13.3	13.	6.4	4.	12.	12.5	7.
Arkansas	9.	11.	6.½	7.	6.	10.	8.
Tennessee	11.7	10.1	8.4	1.1	6.6	10.4	4.
West Virginia	10.5	10.5	.....	.....	10.7	10.7	4.3
Kentucky	11.	10.8	.....	.....	9.3	11.1	4.7
Missouri	7.7	8.4	9.1	1.2	10.	11.	8.8
Illinois	8.5	9.7	8.4	2.	9.7	10.6	6.3
Indiana	9.7	10.2	.....	.....	9.2	10.9	6.
Ohio	9.	9.7	.....	.....	9.7	10.4	5
Michigan	9.6	8.6	.....	.....	9.4	10.3	8.
Wisconsin	7.5	9.	.....	.....	9.	10.5	5.4
Minnesota	9.1	6.1	.....	.....	10.6	10.2	4.9
Iowa	8.1	8.3	.....	.....	9.8	10.3	7.4
Kansas	8.7	8.6	8.	1.	10.9	10.2	7.8
Nebraska Territory	6.5	7.6	.....	.....	11.6	10.	7.5
Utah Territory	10.1	9.	.....	.....	11.1	10.8	9.4
Colorado Territory	12.6	.....	.....	.....	15.5	12.2	6.6

Table showing the amount of oats, in bushels, as estimated from the returns of correspondents.

States.	1860.	1862.	1863.	1864.	1865.	1866.
Maine	2, 988, 939	3, 738, 423	3, 364, 581	2, 102, 994	2, 348, 342	2, 653, 626
New Hampshire	1, 329, 213	1, 495, 365	1, 345, 829	1, 095, 891	1, 346, 380	1, 483, 218
Vermont	3, 511, 605	4, 389, 506	3, 950, 556	3, 611, 938	4, 213, 926	4, 846, 014
Massachusetts	1, 180, 075	1, 475, 094	1, 327, 585	1, 194, 827	1, 194, 827	1, 278, 464
Rhode Island	234, 453	253, 990	203, 192	182, 873	140, 202	154, 222
Connecticut	1, 522, 218	1, 603, 936	1, 764, 329	2, 011, 334	2, 363, 317	2, 741, 446
New York	35, 175, 133	43, 968, 916	43, 968, 916	35, 724, 746	48, 675, 090	54, 029, 349
New Jersey	4, 539, 132	5, 446, 958	4, 902, 263	5, 735, 647	6, 309, 211	6, 498, 487
Pennsylvania	27, 387, 149	34, 233, 936	34, 233, 936	37, 657, 329	46, 571, 661	54, 954, 559
Maryland	3, 959, 298	4, 524, 912	4, 072, 421	5, 429, 894	6, 135, 779	6, 780, 035
Delaware	1, 046, 910	1, 308, 637	1, 570, 364	1, 884, 437	1, 884, 437	2, 374, 388
Virginia	10, 186, 720	.....	.....	.....	.....	10, 245, 156
North Carolina	2, 781, 860	.....	.....	.....	.....	2, 948, 771
South Carolina	936, 974	.....	.....	.....	.....	655, 881
Georgia	1, 231, 817	.....	.....	.....	.....	985, 453
Florida	46, 899	.....	.....	.....	.....	18, 759
Alabama	682, 179	.....	.....	.....	.....	497, 990
Mississippi	221, 235	.....	.....	.....	.....	101, 768
Louisiana	89, 377	.....	.....	.....	.....	89, 377
Texas	985, 889	.....	.....	.....	.....	1, 084, 478
Arkansas	475, 268	.....	.....	.....	.....	308, 924
Tennessee	2, 267, 814	.....	.....	.....	.....	2, 970, 836
Kentucky	4, 617, 029	3, 562, 772	3, 562, 772	4, 346, 326	4, 824, 421	5, 644, 572
Ohio	15, 479, 133	10, 930, 935	12, 024, 028	14, 428, 833	18, 963, 608	22, 187, 420
Michigan	4, 073, 098	5, 430, 797	5, 430, 797	4, 810, 136	7, 275, 331	8, 293, 877
Indiana	5, 028, 755	5, 028, 755	5, 531, 630	6, 084, 793	8, 062, 351	10, 158, 562
Illinois	15, 336, 072	17, 892, 200	19, 681, 420	24, 273, 751	28, 088, 197	30, 054, 370
Missouri	3, 680, 870	2, 660, 653	2, 128, 522	2, 128, 522	2, 501, 013	3, 851, 556
Wisconsin	11, 059, 270	13, 271, 124	14, 598, 236	12, 043, 538	18, 466, 758	17, 174, 086
Iowa	5, 879, 653	7, 055, 583	7, 761, 141	9, 313, 369	12, 007, 380	12, 607, 749
Minnesota	2, 202, 050	2, 934, 067	2, 053, 848	2, 259, 232	3, 388, 848	3, 388, 848
Kansas	80, 744	96, 892	116, 270	146, 500	155, 290	200, 316
Nebraska Territory	79, 977	159, 954	267, 939	223, 284	335, 926	450, 138
Total	171, 197, 012	171, 463, 405	173, 800, 575	176, 690, 064	225, 252, 295	271, 712, 695

Table showing the amount of rye, in bushels, as estimated from the returns of correspondents.

States.	1860.	1862.	1863.	1564.	1865.	1866.
Maine	123, 290	184, 389	165, 951	128, 612	135, 042	156, 648
New Hampshire	128, 248	162, 033	145, 830	109, 373	146, 872	161, 559
Vermont	130, 976	130, 976	130, 976	140, 798	151, 748	153, 782
Massachusetts	388, 085	388, 085	388, 085	413, 957	413, 957	401, 538
Rhode Island	28, 259	33, 911	33, 911	37, 302	31, 707	32, 658
Connecticut	618, 702	618, 762	618, 762	721, 889	776, 030	776, 030
New York	4, 786, 905	5, 385, 268	5, 385, 268	5, 205, 759	5, 309, 874	5, 309, 874
New Jersey	1, 439, 497	1, 499, 497	1, 499, 497	1, 424, 523	1, 246, 458	1, 408, 496
Pennsylvania	5, 474, 792	6, 843, 427	6, 843, 427	6, 843, 427	6, 569, 690	6, 569, 690
Maryland	518, 901	608, 901	548, 011	529, 744	476, 770	476, 770
Delaware	27, 209	34, 011	37, 412	41, 153	37, 038	41, 852
Virginia	944, 330	.....	.....	.....	.....	698, 453
North Carolina	436, 856	.....	.....	.....	.....	371, 327
South Carolina	89, 091	.....	.....	.....	.....	53, 454
Georgia	115, 532	.....	.....	.....	.....	69, 319
Florida	21, 306	.....	.....	.....	.....	.....
Alabama	72, 457	.....	.....	.....	.....	43, 474
Mississippi	39, 474	.....	.....	.....	.....	23, 684
Louisiana	36, 065	.....	.....	.....	.....	.....
Texas	111, 860	.....	.....	.....	.....	112, 978
Arkansas	78, 092	.....	.....	.....	.....	39, 046
Tennessee	257, 989	.....	.....	.....	.....	232, 190
Kentucky	1, 055, 262	791, 447	791, 447	554, 014	476, 453	419, 287
Ohio	656, 146	1, 079, 040	863, 232	704, 974	687, 350	591, 121
Michigan	494, 197	494, 197	494, 197	434, 894	413, 150	413, 150
Indiana	400, 226	444, 695	411, 343	397, 632	371, 123	345, 144
Illinois	981, 322	981, 322	883, 190	850, 071	833, 069	666, 455
Missouri	293, 262	393, 262	219, 947	237, 542	218, 529	222, 899
Wisconsin	888, 534	1, 066, 241	1, 012, 929	810, 343	945, 400	926, 492
Iowa	176, 055	111, 266	122, 392	119, 333	119, 333	116, 946
Minnesota	124, 259	155, 323	179, 791	161, 974	178, 171	188, 861
Kansas	3, 928	4, 713	5, 184	4, 061	4, 061	4, 548
Nebraska Territory	1, 185	2, 000	2, 000	1, 600	2, 080	2, 225
Total	20, 996, 250	21, 239, 451	20, 782, 782	19, 872, 975	19, 543, 905	21, 029, 950

Table showing the amount of barley, in bushels, as estimated from the returns of correspondents.

States.	1860.	1862.	1863.	1864.	1865.	1866.
Maine	802,109	1,002,636	1,002,636	668,424	735,266	742,619
New Hampshire	121,103	141,287	127,159	96,278	101,979	105,038
Vermont	75,282	94,102	94,102	94,102	100,375	104,389
Massachusetts	134,891	168,613	151,752	149,584	144,598	144,598
Rhode Island	40,993	51,241	46,117	41,506	31,821	35,003
Connecticut	20,813	20,813	20,813	18,732	19,200	19,200
New York	4,186,667	4,882,778	4,882,778	3,710,911	4,329,406	4,459,288
New Jersey	24,915	33,220	29,098	29,098	27,167	27,167
Pennsylvania	530,716	636,859	573,174	630,491	603,470	621,574
Maryland	17,350	21,887	19,699	26,591	26,591	25,262
Delaware	3,646	4,254	5,105	4,595	4,595	5,972
Virginia	68,846	.....	.....	.....	.....	.....
North Carolina	3,445	.....	.....	.....	.....	2,928
South Carolina	11,490	.....	.....	.....	.....	.....
Georgia	14,682	.....	.....	.....	.....	11,745
Florida	8,369	.....	.....	.....	.....	.....
Alabama	15,135	.....	.....	.....	.....	9,383
Mississippi	1,875	.....	.....	.....	.....	1,060
Louisiana	224	.....	.....	.....	.....	.....
Texas	67,562	.....	.....	.....	.....	60,805
Arkansas	3,158	.....	.....	.....	.....	4,737
Tennessee	25,144	.....	.....	.....	.....	20,115
Kentucky	270,685	203,014	203,014	172,563	161,778	137,516
Ohio	1,601,082	1,512,525	1,399,086	1,585,630	1,559,203	1,294,139
Michigan	305,914	407,885	407,885	338,388	391,562	418,971
Indiana	296,374	345,767	311,191	339,198	350,504	339,474
Illinois	1,175,651	1,175,651	1,205,042	1,144,790	1,058,931	1,037,753
Missouri	228,502	171,377	171,377	162,809	148,855	156,297
Wisconsin	678,992	905,323	950,589	674,919	843,649	860,521
Iowa	454,116	544,939	599,432	584,446	561,068	622,784
Minnesota	125,130	156,412	156,412	148,592	178,310	181,876
Kansas	4,128	4,953	5,448	5,901	6,661	7,255
Nebraska Territory	1,243	2,486	5,446	4,630	6,297	8,184
Total	11,146,695	12,488,022	11,368,155	10,632,178	11,391,286	11,465,653

COMMENTS ON THE PRECEDING TABLES.

Wheat.—The wheat crop of the United States in 1849 was 100,485,944 bushels; in 1859, 173,104,924, an increase of 72 per cent. A similar increase would give, in 1869, a crop of 297,000,000; and in 1866—at 40 per cent. increase over 1860—the present crop of the whole country should be 242,000,000 bushels. That the present crop does not reach these figures is due only to a deficiency of at least thirty millions in the South, occasioned by the interruption of their industry by war, and forty-five millions in the North, mainly owing to unfavorable seasons during the past three years.

Our returns of wheat are nearly complete, and will be given in full next month. To give an idea of the actual amount of the present crop, which interested parties are just now very busy in depreciating, the following approximation of our final estimate is made, which will not vary greatly from the ultimate showing:

	Bushels.
States hitherto regularly reported	143,000,000
Eleven southern States hitherto unreported	17,000,000
Pacific States and Territories	20,000,000
	180,000,000

This is only five per cent. increase over the crop of 1860, and 80,000,000 bushels less than the former ratio of increase would produce. Now, the crop of the eleven seceding States was—

In 1860, (census)	31,441,826
In 1866, (estimated from returns)	16,841,717

The same ratio of increase would give about 30,000,000 bushels more than the present exhibit. If we estimate 35,000,000 for the deficiency in the North from bad seasons, and 15,000,000 for the retarding influence of scarcity of labor, we have accounted for the 80,000,000 bushels deficit referred to above.

The average quantity of wheat in 1860 to each individual was about five and a half bushels; in 1866, calculating upon the basis of 35,000,000 people and the wheat estimates above, fully five bushels. It will be seen from this exhibit how unfounded is the prediction of famine-threatening scarcity, and how unreasonable the assumption that prices of wheat and flour must necessarily advance. Indeed, the present high prices, though influenced by comparative scarcity, are due far more to the spirit of speculation fostered by an abundance of money and low rates of interest, with excessive rates of transportation.

It is an anomalous condition of affairs when prices are persistently advanced with an existing supply of five bushels of wheat to each individual, leaving an actual surplus for export, and prices so comparatively low abroad as to prevent foreign shipments. California alone claims a surplus sufficient to supply breadstuffs to the entire population of New England.

Old wheat.—It is common to hear from excited and hasty individuals, farmers, sometimes, as well as grain dealers, and commercial editors, that "there is no old wheat in the country." A diminution of one-fifth or one-fourth of the usual surplus is overestimated, without sense or reason. If one locality is found to have very little wheat on hand, it is straightway assumed that all others are in like destitution; a conclusion which never in practice follows such a premise. If these hasty persons would take the trouble to extend their observation, they would find that while one locality has but one-fifth of its customary surplus, there are others that have four-fifths, or perhaps, in some cases, more than ever before. These differences exist among the several counties of a State, as well as between the States themselves.

It is true that there is a deficiency—a very considerable deficiency—in the surplus of old wheat usually on hand at this season of the year. The Ohio States suffered heavily by winter-killing of wheat, and a scarcity of grain resulted; but in such cases provident old farmers are very careful to save enough, not only for seed, but for bread for their families; and not a few, excited by high prices, refuse to sell at the highest rates, hoping still for higher. It is this fact that explains why Ohio has this fall 5 tenths of the supply of last year, which was only three-fourths of that of the previous year. This would make the present supply of old wheat little more than a third of the stock on hand in October, 1864. Indiana has 6 tenths of last year's surplus; Kentucky and West Virginia little more than 4 tenths; Wisconsin, 5.4 tenths; Michigan, 8 tenths; Illinois, 6.3 tenths; Iowa, 7.4 tenths; Minnesota, 4.9 tenths.

In the eastern States the supply in actual quantity amounts to little at any time; this year, however, it is nearly the same as last year. Maine and Connecticut have 10 tenths; New Hampshire, Vermont, Massachusetts, New York, and New Jersey, 9 tenths.

An average of these returns, with due reference to the natural preponderance of the wheat-growing section, would be fairly stated at 6 tenths of last season's stock. This is about what should reasonably be expected. It indicates a comparative scarcity of old wheat, but by no means the total failure that has been declared to exist by interested speculators.

Oats.—The present is undoubtedly the largest crop of oats ever produced in the country. The crop of 1850 was 146,584,179; that of 1860, 171,197,012. The increase of the past two years has been very large. The estimate for the present year is 271,712,695. The increase is almost universal, Wisconsin being the only northern State reporting less than last year. Virginia, North Carolina, Texas, and Tennessee, make larger returns than in 1860; taking the eleven

seceded States together, the aggregate foots up very nearly the same figures as in 1860, when they produced nineteen millions of bushels.

Rye.—The quantity of rye produced appears to be stationary. Very little is grown in the South. The northern crop is about the same as last year. The whole yield, exclusive of that of the Pacific States, is estimated at 21,029,950 bushels.

Barley.—There is also but little variation in the product of barley from year to year. The census figures for the crop of 1859 are 11,146,695. The returns for 1866, exclusive of the Pacific region, indicate 11,465,653 bushels. The amount grown in the eleven seceded States in 1860 was only 219,930 bushels; in 1866, 110,773 bushels. Compared with the crop of 1865, that of 1866 averages a small fraction less than 10 tenths.

The following is an exhibit, first, of the census returns of 1860; then the estimates of accessible portions of the country in 1862–'65; and, finally, a full estimate of the product of the country east of the Rocky mountains in 1866:

	Oats.	Rye.	Barley.
1860	171, 197, 012	20, 996, 250	11, 146, 695
1862	171, 463, 405	21, 239, 451	12, 488, 022
1863	173, 800, 575	20, 782, 782	11, 368, 155
1864	176, 690, 064	19, 872, 975	10, 632, 178
1865	225, 252, 295	19, 543, 905	11, 391, 286
1866	271, 712, 695	21, 029, 950	11, 465, 653

Hay.—This crop is deficient by one or two-tenths in nearly all the northern States east of the Mississippi. The Trans-Mississippi States report a large crop. The southern States, which usually produce little hay, have economized their resources in this respect, and Georgia, Alabama, Louisiana, Texas and Tennessee claim a larger quantity than in 1860. The quality throughout the country is a fair average.

Corn.—An estimate of the corn crop will be given next month. The condition on the first of October is shown in the table. There is no essential variation from the showing of last month.

Buckwheat.—The condition of this is everywhere reported at 10 tenths or more, excepting in Vermont, 9 tenths, Wisconsin 7.6 tenths, Minnesota 7 tenths, Iowa 8.4 tenths, Kansas 7.6 tenths, and some of the southern States.

Tobacco.—The condition of tobacco is more variable than that of some other crops. It is fine in Kentucky, fair in Ohio, and a full average in Connecticut; but in other States there are some drawbacks.

Fattening cattle.—In Connecticut, Delaware, Maryland, Texas, West Virginia, Missouri, Kansas, and Minnesota, there is as good a supply of fattening cattle as at this period in 1865; but the other States show a deficiency, some of 1 tenth; Rhode Island, of twenty-three per centum; Massachusetts, of eighteen; and some of the southern States a still larger percentage.

Cotton.—Our final estimates will be given hereafter. The prospects of the crop, as indicated in the present returns, are somewhat less flattering in some locations. The injuries from insects are reported at 4.2 tenths of the growing crop in Alabama; 3 tenths in Mississippi; 5 tenths in Louisiana; 4 tenths in Texas. Injuries have also resuted in Louisiana from floods.

METEOROLOGY.

SEPTEMBER, 1866.

Table showing the highest and lowest range of the thermometer, (at dates prefixed,) mean temperature, and amount of rain fall, (in inches and tenths,) for September, 1866, at the following places, as given by the observers named. Daily observations were made at the hours of 7 a. m. and 2 and 9 p. m.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MAINE.								
				°		°	°	*In.*
Steuben	Washington	J. D. Parker	3, 7	73	24	40	57.9	8.15
Barnard	Piscataquis	Edwin Pitman	3	76	23	38	55.0	7.35
West Waterville	Kennebec	B. F. Wilbur	3	80	23	38	59.7	5.20
Gardiner	do	R. H. Gardiner	3	77	23	40	59.0	5.66
Lisbon	Androscoggin	Asa P. Moore	.....	.....	23	30	.....	5.26
Cornish	York	Silas West	3	82	23	34	59.0	5.18
Cornishville	do	G. W. Guptill	3	82	23	41	60.5	5.75
NEW HAMPSHIRE.								
Stratford	Coos	Branch Brown	5	74	16	30	54.7	6.78
Shelburne	do	F. Odell	3	82	24	36	58.2	.....
North Barnstead	Belknap	C. H. Pitman	3	83	16	34	.....	5.00
Concord	Merrimack	John T. Wheeler	12	81	23, 24	37	58.9	3.06
Claremont	Sullivan	Arthur Chase	3	82	16, 23, 24	34	59.5	7.18
VERMONT.								
Lunenburg	Essex	H. A. Cutting	5	90	23, 24	28	51.5	6.00
Craftsbury	Orleans	James A. Paddock	2	75	23	34	53.8	7.22
Randolph	Orange	Charles S. Paine	2	81	16	31	58.2	5.12
Middlebury	Addison	H. A. Sheldon	2	76	23	36	57.5	4.93
Brandon	Rutland	H. Buckland	5	88	23	39	59.2	5.20
Wilmington	Windham	Rev. J. B. Perry	1	84	23	29	57.7	.....
MASSACHUSETTS.								
Kingston	Plymouth	G. S. Newcomb	3	86	16, 23	44	64.1	5.80
Topsfield	Essex	S. A. Merriam	3	85	23, 24	44	60.4	4.73
Lawrence	do	John Fallon	1	85	24	39	56.0	4.76
Newbury	do	John H. Caldwell	3	88	23	40	61.0	.....
North Billerica	Middlesex	Rev. E. Nason	2	87	24, 28	37	61.8	.....
New Bedford	Bristol	Samuel Rodman	3	79	16	43	63.6	5.20
Do	do	Edward F. Tucker	3	83	16	43	64.6	5.05
Worcester	Worcester	Joseph Draper, M.D.	3	83	24	42	62.4	4.77
Mendon	do	J. G. Metcalf, M. D.	3	83	24	40	61.4	5.80
Lunenburg	do	G. A. Cunningham	3	84	16	40	61.4	.....

Table showing the range of the thermometer, &c., for September—Cont'd.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
MASSACHUSETTS-C'd.				°		°	°	*In.*
Amherst	Hampshire	Prof. E. S. Snell	3	83	16, 23, 24	36	60.0	4.71
Springfield	Hampden	J. Weatherhead	3	92	24	35	62.2	5.21
Richmond	Berkshire	William Bacon	5	87	10	38	64.9	7.02
Williams College	do	Prof. A. Hopkins	2	80	23	36	58.5	4.97
RHODE ISLAND.								
Newport	Newport	Wm. H. Crandall	3, 7	81	23	42	62.4	5.02
CONNECTICUT.								
Pomfret	Windham	Rev. D. Hunt	3	80	16	40	60.4	5.71
Columbia	Tolland	Wm. H. Yeomans	3	88	24	38	63.6	.....
Middletown	Middlesex	Prof. John Johnston	3	89	16	40	64.2	6.74
Colebrook	Litchfield	Charlotte Rockwell	3	84	16, 23	38	57.4	.....
Groton	New London	Rev. E. Dewhurst	3	86	16	45	64.2	4.06
NEW YORK.								
Moriches	Suffolk	Miss C. Z. Smith	3	90	29	50	69.6	5.50
South Hartford	Washington	G. M. Ingalsbe	4	86	24	37	62.5	5.28
Germantown	Columbia	Rev. S. W. Roe	3	89	16, 23, 24	42	62.0	6.50
Fishkill Landing	Dutchess	Wm. H. Deming	2	85	23	41	61.6	.....
Garrison's	Putnam	Thomas B. Arden	3	82	23	42	60.8	5.14
Throg's Neck	Westchester	Miss E. Morris	2, 3	84	10, 22, 23	50	66.0	.....
Deaf & Dumb Inst.	New York	Prof. O. W. Morris	1, 2, 3	82	23, 24	46	65.3	4.85
St. Xavier's College	do	Rev. Jno. M. Aubier	2	85	23	48	67.0	3.15
Columbia College	do	Dr. Wm. Alsberg	2	83	23	51	66.8	2.97
Flatbush	Kings	Eli T. Mack	3	84	24	46	62.6	3.86
Newburgh	Orange	Jas. H. Gardiner	5	85	16, 23, 29	49	63.4	3.20
Gouverneur	St. Lawrence	C. H. Russell	1	81	23	34	56.0	6.02
North Hammond	do	C. A. Wooster	1	80	23	34	55.9	10.44
South Trenton	Oneida	Storrs Barrows	1	84	23	34	63.8	8.07
Houseville	Lewis	Walter D. Yale	1	81	23	36	56.4	7.92
Depauville	Jefferson	Henry Haas	1	82	16	39	57.0	6.42
Theresa	do	S. O. Gregory	.....	.....	.....	.....	.....	5.58
Oswego	Oswego	Wm. S. Malcolm	2	83	23	40	57.0	5.31
Palermo	do	E. B. Bartlett	1	85	22, 23	37	56.2	7.30
Baldwinsville	Onondago	John Bowman	2	78	23	38	56.4	.....
Skaneateles	do	W. M. Beauchamp	.....	.....	23	34	58.0	.....
Nichols	Tioga	Robert Howell	1	88	23	39	58.7	.....
Geneva	Ontario	Rev. W. D. Wilson	2	85	23	43	59.4	4.58
Rochester	Monroe	M. M. Mathews, M.D.	2	83	23	40	58.7	4.11
Little Genesee	Allegany	Daniel Edwards	2, 4	80	23	30	56.7	3.40
Buffalo	Erie	Wm. Ives	4	86	22	39	58.7	7.75
NEW JERSEY.								
Paterson	Passaic	Wm. Brooks	2	87	23	43	65.2	7.31
Newark	Essex	W. A. Whitehead	3	84	16	43	65.2	5.47
New Brunswick	Middlesex	George H. Cook	3	84	16	47	65.6	5.84
Trenton	Mercer	E. R. Cook	3	87	23	49	69.9	7.88
Burlington	Burlington	John C. Deacon	3	86	23	46	65.7	8.00
Moorestown	do	Thos. J. Beans	3	91	23	47	67.3	6.21
Mount Holly	do	M. J. Rhees, M.D.	3	86	16, 23	48	66.9	.....

Table showing the range of the thermometer, &c., for September—Cont'd.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
NEW JERSEY–Con'd.				°		°	°	*In.*
Haddonfield	Camden	Samuel Wood	3	90	16	47	67.7	5.93
Greenwich	Cumberland	R. C. Sheppard	3	86	16	48	68.3	7.06
Dover	Morris	Howard Shriver	.....	.....	29	53	.....	.....
PENNSVLVANIA.								
Nyces	Pike	John Grathwohl	3	86	23, 28	38	58.9	3.10
Fallsington	Bucks	Ebenezer Hance	1	85	16, 23	49	66.7	6.50
Philadelphia	Philadelphia	Pf. J. A. Kirkpatrick	3	90	16, 23	51	69.7	7.46
Germantown	do	Thomas Meehan	3	93	22	45	66.9	.....
Mooreland	Montgomery	Anna Spencer	3	86	16	45	65.2	8.32
Dyberry	Wayne	Theodore Day	1	82	23	31	58.0	.....
Nazareth	Northampton	L. E. Kicksecker	3	94	7	56	65.5	.....
North Whitehall	Lehigh	Edward Kohler	3	83	16	37	64.0	.....
Stevensville	Bradford	J. Russell Dutton	1	88	23	32	60.5	4.33
Reading	Berks	J. Heyl Kaser	3	88	16, 23	45	65.6	.....
Ephrata	Lancaster	W. H. Spera	3	92	16	46	66.6	4.47
Harrisburg	Dauphin	John Heisely, M. D	1	87	23	48	68.9	4.39
Lewisburg	Union	Prof. C. S. James	1	86	23	39	62.1	5.18
Tioga	Tioga	E. T. Bentley	1	90	22, 23	38	61.0	6.75
Pennsville	Clearfield	Elisha Fenton	12	83	22	38	59.5	5.67
Connellsville	Fayette	John Taylor	1	86	22	40	62.8	.....
New Castle	Lawrence	E. M. McConnell	1	83	22	37	61.3	.....
Canonsburg	Washington	Wm. Smith, D. D	1	88	22	35	62.8	5.85
MARYLAND.								
Woodlawn	Cecil	Jas. O. McCormick	3	88	27	48	67.5	8.98
Catonsville	Baltimore	Grape & Ranlett	13, 19	84	22, 27	46	64.6	.....
Annapolis	Anne Arundel	Wm. R. Goodman	19	88	27	49	65.6	10.63
Frederick	Frederick	Miss H. M. Baer	3, 4	86	23	44	64.7	6.00
WEST VIRGINIA.								
Romney	Hampshire	W. H. McDowell	4, 5, 18	88	23	40	62.1	.....
NORTH CAROLINA.								
Statesville	Iredell	Thos. M. Allison	3, 4	90	22	44	67.4	7.25
Wilson	Wilson	E. W. Adams, A. M.	3	94	22	54	74.1	4.94
Raleigh	Wake	Rev. F. P. Brewer	3	92	22	52	72.1	5.50
FLORIDA.								
Gordon	Alachua	H. B. Scott	5	94	29	68	78.7	.....
Lake City	Columbia	Edward R. Ives	20	90	29	65	83.3	13.25
TEXAS.								
Austin	Travis	J. Van Nostrand	2, 3, 4, 5, 6	91	21	55	75.4	4.84
MISSISSIPPI.								
Natchez	Adams	William McCary	3	88	22	45	74.6	3.20
Grenada	Yalabusha	Albert Moore	4	90	22	45	.....	.....
ARKANSAS.								
Helena	Phillips	O. F. Russell	4	97	22	46	74.2	9.16
TENNESSEE.								
Clarksville	Montgomery	Wm. M. Stewart	4	91	22	44	68.0	5.60
Lookout Mountain	Hamilton	Edward F. Williams.	4	100	21	46	69.1	.....

Table showing the range of the thermometer, &c., for September—Cont'd.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
KENTUCKY.				°		°	°	*In.*
Louisville	Jefferson	Mrs. L. Young	2	87	22	39	66.8	12.80
Chilesburg	Clark	S. D. Martin, M. D.	1, 3, 4	84	22	40	.....	5.31
Danville	Boyle	O. Beatty	4	90	22	45	66.8	5.08
OHIO.								
New Lisbon	Columbiana	J. F. Benner	5, 6	85	27	38	63.8	7.68
Steubenville	Jefferson	Roswell Marsh	.....	84	.....	39	64.5	7.50
Milnersville	Guernsey	Rev. D. Thompson	25	82	27	38	60.3	8.02
East Cleveland	Cuyahoga	Mr. and Mrs. G. A. Hyde.	1	85	22	42	60.6	7.91
Gallipolis	Gallia	A. P. Rodgers	1	83	22	44	64.6	8.40
Kelley's Island	Erie	Geo. C. Huntington	1	85	21	48	63.0	7.15
Norwalk	Huron	Rev. A. Newton	1	84	22	40	59.2	7.06
Westerville	Franklin	Prof. H.A.Thompson	2	83	22	40	63.0	13.90
Kingston	Ross	Prof. John Haywood	2	85	22	41	63.6	6.49
Marion	Marion	H. A. True, M. D.	1	82	22	41	59.4	11.35
Kenton	Hardin	C. H. Smith	2	94	22	56	64.2	.....
Urbana University	Champaign	M. G. Williams	2	82	22	36	61.8	15.88
Hillsborough	Highland	J. McD. Mathews	2	79	22	40	62.1	9.59
Bethel	Clermont	George W. Crane	2	81	22	38	59.0	8.00
Cincinnati	Hamilton	George W. Harper	2	82	22	43	64.8	10.55
Do	do	R. C. Phillips	2	82	22	50	67.1	11.21
College Hill	do	John W. Hammitt	2	83	30	50	.....	12.00
Farm School	do	L. B. Tuckerman	2	78	23	40	.....	12.50
MICHIGAN.								
Monroe City	Monroe	F. & E. Whelpley	1	82	22	40	58.6	4.61
State Agricult'l Col.	Ingham	Prof. R. C. Kedzie	6	74	22, 26	36	55.5	5.81
Litchfield	Hillsdale	R. Bullard	3, 9	78	21, 22	35	57.4	10.42
Grand Rapids	Kent	E. S. Holmes, D.D.S.	3	77	26	38	60.0	.....
Kalamazoo	Kalamazoo	Milton Chase, M. D.	3	92	25	48	69.0	.....
Northport	Leelanaw	Rev. Geo. M. Smith	4, 28	74	22	42	56.4	.....
Holland	Ottawa	L. H. Streng	3	76	26	35	56.6	7.85
Ontonagon	Ontonagon	Edwin Ellis, M. D.	28	84	20	36	53.9	.....
Homestead	Benzie	George E. Steele	29	75	26	36	54.3	.....
INDIANA.								
Aurora	Dearborn	George Sutton, M. D.	2	90	22	42	65.8	10.74
Vevay	Switzerland	Chas. G. Boerner	2	90	21, 22	46	68.9	15.25
Muncie	Delaware	G. W. H. Kemper, M.D.	1	84	22	40	61.0	11.72
Spiceland	Henry	William Dawson	1, 2, 16	80	22	42	61.6	16.30
Columbia City	Whitley	Dr. F. and Miss L. McCoy.	16	84	22	36	59.1	6.19
Indianapolis	Marion	Mrs. Z. Butterfield, A. M.	2	86	23	41	61.9	.....
New Harmony	Posey	John Chappellsmith	4	87	22	45	66.3	10.74
ILLINOIS.								
Golconda	Pope	Wm. V. Eldredge	1	92	22	39	71.9	7.83
Aurora	Kane	A. Spaulding	1, 3, 4	76	21	37	57.9	4.80
Sandwich	DeKalb	N. E. Ballou, M. D.	3	80	21, 22	32	58.2	2.94
Ottawa	La Salle	Mrs. E. H. Merwin	1	82	22	37	59.7	4.72
Winnebago	Winnebago	J. W. & Miss Tohnau	2, 3, 4, 29	77	21	37	57.3	4.19
Rochelle	Ogle	Daniel Carey	4	83	21	40	59.1	.....
Wyanet	Bureau	E. S. & Miss Phelps	30	88	21, 22	40	60.3	6.81

Table showing the range of the thermometer, &c., for September—Cont'd.

Place.	County.	Observer's name.	Date.	Max.	Date.	Min.	Mean.	Rain.
ILLINOIS—Cont'd.				°		°	°	*In.*
Tiskilwa	Bureau	Verry Aldrich	3	80	22	36	58.2	.....
Elmira	Stark	O. A. Blanchard	1,3,29,30	76	21	34	57.4	8.25
Peoria	Peoria	Frederick Brendel	2	79	21	39	60.2	6.50
Springfield	Sangamon	G. M. Brinkerhoff	2	93	21, 22	42	61.0	.....
Loami	....do	Timothy Dudley	4	81	20	40	60.2	6.55
Dubois	Washington	Wm. C. Spencer	2	83	21	28	53.6	10.15
Galesburg	Knox	Pf. W. Livingston	1, 2, 3, 60	76	22	34	.....	8.38
Manchester	Scott	Dr. J. & C. W. Grant	28	87	21	38	61.3	7.08
Mount Sterling	Brown	Rev. A. Duncan	1	84	21	39	61.2	.....
Augusta	Hancock	S. B. Mead, M. D.	1	77	21	38	61.7	10.30
WISCONSIN.								
Manitowoc	Manitowoc	Jacob Lüps	5	75	15	40	57.1	1.27
Plymouth	Sheboygan	G. Moeller	29	82	22	35	56.1	1.90
Milwaukee	Milwaukee	I. A. Lapham, LL.D	4	76	21, 22	36	57.1	4.55
Do	....do	Carl Winkler	1	74	21	38	59.0	5.67
Geneva	Walworth	Wm. H. Whiting	3	77	20	35	57.8	.....
Delavan	....do	Leveus Eddy	1, 29	75	16	33	55.8	3.96
Waupacca	Waupacca	H. C. Mead	29	83	15, 21	38	57.4	.....
Embarrass	....do	E. Everett Breed	29	86	21	35	58.3	1.21
Rocky Run	Columbia	W. W. Curtis	3	77	20	35	.....	.....
Beloit	Rock	H. D. Porter	28	75	21	32	55.9	1.88
Baraboo	Sauk	M. C. Waite	29	86	21	40	.....	2.60
MINNESOTA.								
St. Paul	Ramsey	Rev. A. B. Paterson.	28	78	21	30	53.9	2.26
Minneapolis	Hennepin	Wm. Cheney	28	86	21	32	56.1	2.22
New Ulm	Brown	Charles Roos	28	87	21	31	58.2	2.02
IOWA.								
Clinton	Clinton	P.J.Farnsworth,M.D	29, 30	80	21, 23	36	57.1	10.00
Davenport	Scott	Sidney Smith	30	75	20	42	56.5	7.05
Dubuque	Dubuque	Asa Horr, M. D.	29	78	21	34	57.6	3.55
Monticello	Jones	M. M. Moulton	30	82	21	34	54.8	3.73
Guttenburg	Clayton	Jas. P. Dickerson	30	84	21, 26	34	55.7	.....
Ceres	....do	J. M. Hagensick	29	80	21	36	57.6	.....
Manchester	Delaware	Allen Mead	30	82	21	36	54.8	2.58
Mount Vernon	Linn	Prof. A. Collins	30	79	21	33	57.7	.....
Iowa City	Johnson	Prof. T. S. Parvin	28	81	21	33	59.1	6.53
Independence	Buchanan	Mrs. D. B. Wheaton	28, 30	82	19	33	53.8	3.70
Do	....do	D. S. Deering	30	78	21	34	56.7	.....
Waterloo	Black Hawk	T. Steed	29, 30	80	14, 15	40	57.3	.....
Algona	Kossuth	Philip Dorweiler	27, 28	82	20	34	53.5	.....
Fontanelle	Adair	A. F. Bryant	27, 29	82	21	33	57.4	6.50
Harris Grove	Harrison	Jacob F. Stern	27	82	20	33	57.1	4.40
MISSOURI.								
St. Louis University	St. Louis	Rev.F.H.Stuntebeck	2	84	21	43	63.6	8.28
Allenton	....do	A. Fendler	2	89	22	32	59.3	8.90
Union	Franklin	Dr. W. Moore	2	89	21, 22	40	62.3	7.20
Harrisonville	Cass	John Christian	1	86	21	34	61.1	7.72
Easton	Buchanan	P. B. Sibley	27, 28, 30	84	18, 20, 22	40	60.1	11.54
KANSAS.								
Council Grove	Morris.	Abner Woodworth	1	88	20	42	63.3	4.55

AVERAGES OF SEPTEMBER.

Table showing the average temperature and fall of rain (in inches and tenths) for the month of September in each year named, and for the six years first named, collectively, in each State in which the observations were made.

States.	SEPTEMBER.									
	Averages, six years, 1854—1859.		Averages, 1863.		Averages, 1864.		Averages, 1865.		Averages, 1866.	
	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.	Mean temp.	Mean rain.
	Deg.	*In.*	*Deg.*	*In.*	*Deg.*	*In.*	*Deg.*	*In.*	*Deg.*	*In.*
Maine	57.2	3.17	55.9	3.08	54.7	4.22	62.8	1.39	58.5	6.08
New Hampshire	57.4	3.52	54.9	2.34	56.2	3.86	63.3	2.22	57.8	5.51
Vermont	57.1	3.77	56.3	3.42	53.8	5.34	61.0	2.83	56.3	5.69
Massachusetts	62.1	3.68	58.5	3.38	58.6	3.01	65.9	0.98	61.6	5.27
Rhode Island	61.5	3.43	57.8	1.74	.....	.....	.....	.....	62.4	5.02
Connecticut	61.6	3.64	58.1	2.31	59.6	3.26	66.6	0.53	62.0	5.50
New York	60.5	3.60	56.9	2.31	60.2	3.86	67.3	3.73	56.6	5.59
New Jersey	64.8	3.40	60.0	1.30	62.6	5.45	69.7	4.07	67.0	6.71
Pennsylvania	65.2	3.80	62.4	2.52	61.9	8.24	69.5	3.71	63.7	5.64
Delaware	68.9	3.30	.....	.....	66.7	8.80	69.6	6.95	.....	.....
Maryland	67.2	4.46	61.1	.....	67.1	3.33	74.4	1.81	65.6	8.57
District of Columbia	.....	.....	63.3	3.09	66.0	2.57	.....	.....	.....	.....
West Virginia	.....	.....	.....	.....	.....	.....	73.3	3.10	62.1	.....
Mississippi	.....	.....	.....	.....	.....	.....	77.4	5.17	74.6	3.20
Tennessee	71.0	2.91	.....	.....	.....	.....	74.1	6.19	68.6	5.60
Kentucky	70.0	2.54	.....	.....	67.8	4.33	74.1	6.39	66.8	7.73
Ohio	66.3	2.69	62.1	2.18	63.4	5.38	71.2	5.95	62.6	10.32
Michigan	62.4	3.61	56.5	1.98	62.7	3.34	67.8	4.92	58.0	7.17
Indiana	67.5	3.21	54.5	2.05	65.0	4.24	74.0	6.13	63.5	11.82
Illinois	66.4	2.70	63.2	3.07	66.0	3.45	71.7	6.66	55.0	6.81
Wisconsin	61.3	3.57	58.3	1.27	59.7	4.33	67.8	6.17	57.2	2.88
Minnesota	57.4	3.35	59.1	1.87	62.2	1.57	68.3	4.42	56.1	2.17
Iowa	64.5	3.19	62.2	3.65	63.7	2.79	70.9	4.53	56.4	5.34
Missouri	70.3	3.11	69.0	2.86	68.3	4.08	74.8	4.78	61.3	8.73
Kansas	69.5	2.20	72.6	0.55	73.3	2.23	74.5	1.00	63.3	4.55
Nebraska Territory	67.7	2.40	65.6	1.75	66.9	1.77	72.3	1.31	58.9	5.90

NOTES OF THE WEATHER—SEPTEMBER, 1866.

Cornish, Maine.—September 15.—Heavy frost at night.

Lisbon, Maine.—Heavy thunder showers on the 12th and 14th, and frost on the night of the 15th, killing vines, beans, &c., and hurting corn in some places. Heavy frosts on the nights of the 22d and 23d, killing every sprig.

Gardiner, Maine.—The temperature of the month was seventeen hundredths of a degree above the average of September for thirty years. The amount of rain was 2.43 inches above the average; only two Septembers on the record have equalled it. There have been two slight frosts, but no killing frost.

Concord, New Hampshire.—September 23.—First ice this morning, it measured an eighth of an inch thick. September 30, the leaves began to change color in August, and the colors are now far advanced and the falling is quite profuse.

Stratford, New Hampshire.—September 21.—Diffuse lightning and thunder in the southwest at 8 p. m.

Brandon, Vermont.—September 1.—Heavy thunder-shower from the north at 9.40 p. m. 10th, light frost on lowlands, doing no injury. 16th, Hard frost this morning; it killed corn, vines, &c.

Craftsbury, Vermont.—September 22.—The greatest fall of rain which has occurred here for many years commenced about three o'clock yesterday, and continued about twelve hours, raising the streams higher than ever was known before, and carrying off many bridges, dams, and some mills. The water in the gauge this morning measured two inches and two-tenths.

New Bedford, Massachusetts.—September 30.—Forest leaves but little changed. Some maples, gum-trees, and wild vines, red; grass green, and growing on all sides. No frost yet in this immediate vicinity.

Lunenburg, Massachusetts.—Slight frost on the mornings of the 16th and 23d.

North Billerica.—September 16.—Heavy frost last night; melons, &c., damaged.

Pomfret, Connecticut.—September 30.—There has been no frost at this place yet.

Colebrook, Connecticut.—September 10.—Heavy frost on low ground. 24th, heavy frost last night.

Depauville, New York.—September, like August, was unusually wet and cool, with only a few pleasant days, in the first week of the month. There were no injurious frosts. One hundred and sixteen days, from May 17 to September 10, were without frost.

Nichols, New York.—The rain from the 17th, near night, till 7 a. m. of the 21st, was the largest and longest storm in a number of years.

South Trenton, New York.—September has been uncommonly wet; rain fell on seventeen days.

Moriches, New York.—There was no frost in September.

South Hartford, New York.—From 3 o'clock a. m. of the 17th, till 2 a. m. of the 23d, there was nearly a continuous rain, and on Friday, the 21st, from 4 to 5 p. m., there were a number of heavy discharges of thunder in the southeast, not distant, passing to the northeast with brilliant diffuse lightning. The first frost was on the morning of the 15th, very white, and much damaging tender vegetation; also severe frosts on the mornings of the 23d and 24th.

Rochester, New York.—September 24.—White frost this morning.

Buffalo, N. Y.—The mean temperature of September was nearly $3\frac{1}{4}$ degrees below the average of the month for the last eight years, and 10 below that of last year; but the month was more remarkable for its clouds and rains. The amount for the month was four inches and two-tenths above the average. The

most that has fallen, including melted snow, in any one previous month within eight years was 6.32 inches, in May, 1864, which is 1.43 less than in the September just closed.

North Hammond, N. Y.—White frost on the morning of the 16th, and heavy frost on the 23d.

Germantown, N. Y.—The first frost seen in this neighborhood was on the morning of the 23d.

Palermo, N. Y.—The past September was the coldest in thirteen years.

Newark, N. J.—The mean temperature of September was nearly a degree and four-tenths above the average of twenty-two years, having been exceeded only in the years 1846, 1850, 1851, and 1865. The fall of rain was nearly two inches more than the average of the month, and here was a larger amount only in the years 1847, 1859, and 1860, during the period covered by these observations.

Mount Holly, N J.—September 8.—Last night about 9½ o'clock a violent hurricane commenced, as near as the observer can learn, about five miles in a direct line southwest from this place, and ended at a point five miles due east from here; width of track about fifty yards. It prostrated fences and trees throughout its path, and near the end of it entirely demolished a dwelling-house of two stories.

Dyberry, Penn.—September 23.—Frost this morning killed corn, potatoes, &c., and made forest leaves commence to fall. Ice formed one-fourth to three-eighths of an inch thick in vessels. The ground looked as though a light snow had fallen. 30th, about one-half of the evenings during the month were clear after sunset, but there was no day wholly clear.

North Whitehall, Penn.—September 16.—Light frost in some localities.

Byberry, Penn.—September 14.—Clear till 4 p. m., when a storm came up from the west. Rain fell in torrents, and from 5½ to 5¾ hail-stones fell as large as pigeons' eggs.

Fallingston, Penn.—The month was very wet, and there was no frost of any consequence.

Nyels, Penn.—Frost on the mornings of the 16th, 23d, and 28th, and on the 23d ice on standing water three-sixteenths of an inch thick.

Horsham, Penn.—September 14.—A thunder-storm arose in the west about 5 p. m., and passed over to the east, raining heavily here for about an hour, thunder not very near. A few miles south there was very heavy hail, breaking many windows.

Grampion Hills, Penn.—September was very wet, yet without any very heavy rains, but almost continually showery, making it very difficult to get in the fall crops. There were no storms of wind and very little thunder or lightning; some light frosts, but not severe enough to materially injure the corn or vines.

Woodlawn, Maryland.—Hoar-frost on low grounds on the mornings of the 16th, 23d, 27th, and 28th.

Romney, West Virginia.—September 1.—Hardest rain of the season. 3d, very hard rain and some thunder. 23d, first frost of the season; there were earlier frosts in the country, but this was the first in town.

Lake City, Florida.—Rains on fourteen days of the month; heavy on the 3d, 6th, 10th, 14th, 15th and 16th.

Grenada, Mississippi.—September 30.—Vegetation, cotton especially, unusually green and growing for this season of the year; but little cotton open, whereas nearly half the crop should have been picked. Peas, an important crop here, are very green and backward and much fear is felt of damage from early frost.

Lookout Mountain, Tennessee.—September 18.—Sudden shower at noon;

violent rain. 20th, sudden showers during the day, thunder, violent rain from 5 to 6 p. m.

Chilesburg, Kentucky.—September 30.—Light frost has appeared several times in low situations, but it is not seen that any damage has been done to the tenderest vegetation. A hard frost would do great damage now. Corn is uncommonly green for the season; grape-vines are also green, having matured badly.

Norwalk, Ohio.—Corn injured in some localities by frost on the 20th and 21st

College Hill, Ohio.—One-fourth of the annual amount of rain fell during the first nineteen days of September.

Bethel, Ohio.—The amount of rain (eight inches) which fell during the past month exceeds that of any September for twenty-five or thirty years; it is more than the observer has ever known.

Urbana, Ohio.—The storm which commenced at $10\frac{3}{4}$ a. m. of the 17th was remarkable for the great quantity of rain. The rain on the 17th was moderate, but between 5 and 8 o'clock on the 18th the quantity was 4.10 inches, and the whole quantity for that day was 6.20 inches, which was greater than the observer ever before knew in the same period. The rain ceased on the 20th at $6\frac{1}{2}$ p. m.; the whole quantity of water being 7.43 inches. The rain began again on the 24th at night, and stopped the next night, the quantity of water being 2.59 inches. Great damage was done to crops in low grounds along water-courses, to bridges, railroads, &c. There is no known record of so great a quantity of water falling in so short a time. The whole quantity for the month (15.88 inches) is only 1.76 inch less than that for the first six months of the year, and is over one-third of the average annual quantity for Urbana.

(Other registers contain notices of this unusually large rain in Ohio, and the newspapers abound with full and detailed accounts of the extensive damage caused by the overflow of streams.)

Monroe, Michigan.—Slight frost on the night of the 14th; few things were hurt in this vicinity, but some injury was done in the country, back from the lake. There was a heavier frost on the night of the 21st, doing much injury in the country.

Litchfield, Michigan.—September 15.—Grass entirely white with frost at 6 o'clock this morning, injuring the crops in many places very much; skim ice formed in dishes. 22d.—A general frost this morning; ice a sixteenth of an inch thick formed in out-door dishes.

Holland, Michigan.—September 15.—Thermometer 32° at 6 a. m.

Muncie, Indiana.—September 15.—Light frost last night, but not sufficient to do any damage. 18th and 19th.—It rained almost constantly during these two days; the White river at this place was greatly swollen, the water being higher in it than it has been since the year 1848. 22d.—A heavy white frost last night, but no damage to the corn nor any other vegetable.

Columbia City, Indiana.—September 15.—First frost of the season. 29th.—Eel river higher than for some years past.

Vevay, Indiana.—September 14.—A most terrific thunder-storm occurred last night, commencing at 10 p. m., and continuing until 2.30 this morning. The rain fell in torrents; all the creeks and streams are overflowing. 19th and 20th.—Five inches and seven-tenths of rain fell on these two days.

Peoria, Illinois.—September 21.—One mile out of the city water froze in exposed places.

Winnebago, Illinois.—September 22.—Severe frost; temperature 32° at sunrise. In some localities on the 21st, the thermometer stood at 28° and in one at 26°. The frosts of the 21st and 22d were very injurious to the corn crop, it being very backward on account of long continued cool and wet weather.

Aurora, Illinois.—The first frost occurred on the 21st, materially injuring the

corn, as there was but a small proportion matured. The thermometer stood 32° at sunrise; some ice in open vessels out-doors. On the 22d the frost was harder; the leaves on the maple and some fruit trees were turned yellow.

Golconda, Illinois.—September 30.—The Ohio river is higher at this point than ever before known at this season of the year, and still rising. Bottom lands are overflowed, and great damage is done to corn and potato crops.

Springfield, Ohio.—There has been more rain than in any other year at this season for more than ten years. It rained on twenty-two days during the month.

Mount Stirling, Illinois.—September 21.—First white frost of the season visible this morning. In some places ice a sixteenth of an inch thick was observed. Garden vegetables do not appear to be injured, and grape-vines are still untouched in this vicinity. 22d.—Another white frost visible in some places this morning, but not so extensive as on yesterday.

Harrisonville, Missouri.—September 21.—A light white frost, which killed most tender plants in some localities.

Edinburg, Missouri.—September 15.—Last night the most violent hail-storm visited this locality that is remembered ever to have occurred here. The hail-stones varied from the size of a partridge egg to that of a hen's egg. The storm began at 9 p. m. and continued, with but one slight intermission, for one hour, and extended, as far as ascertained, from west to east 19 miles, and from north to south 5 miles Dead grouse were found on the prairies, killed by the storm. 21st.—Very heavy frost last night.

St. Louis, Missouri.—September 13.—Distant thunder and lightning at 6 p. m. Very high wind at $6\frac{3}{4}$, followed by heavy rain; lightning continuous, thunder terrific; some hail. At $8\frac{3}{4}$ it abated somewhat, but at $9\frac{1}{2}$ another storm followed, with more hail, the sky all in a blaze. The rain ceased during the night.

Allenton, Missouri.—September 21.—Heavy white frost; thermometer 31° at 6 a. m.; vegetation not injured. 22d, heavy white frost; thermometer 30° at 6 a. m.; leaves of plants stiff with frost; but little damage done to the most tender plants.

Milwaukee, Wisconsin.—Hoar-frost on the mornings of the 15th, 21st and 22d. Ice on the 21st.

Delavan, Wisconsin.—September 15.—First light frost, doing little or no hurt. 21st, thermometer at 6 a. m. 30°.9; ice formed.

Embarrass, Wisconsin.—September, though cold and cloudy, was dry; swamps and springs are drier than at any time this or last year; rivers were also low.

Bloomfield, Wisconsin.—September 14.—First frost; ice formed an eighth of an inch thick on low ground; the corn on high ground not much injured.

Plymouth, Wisconsin.—First frost on the 21st. The mean temperature of the month was four degrees lower than the average of September for the last six years.

Minneapolis, Minnesota.—September 15.—Heavy white frost this morning. 21st, ice a quarter of an inch thick on barrels of water out of doors.

New Ulm, Minnesota.—September 21.—First frost this morning; ice a tenth of an inch thick; much damage done to corn and other vegetables.

St. Paul, Minnesota.—A very severe frost on the 21st; killed all kinds of vines and fruits and greatly injured corn.

Monticello, Iowa.—September 21.—First frost; water froze an eighth of an inch; it has been ninety-three days since the last frost; last year there were 139 days without frost.

Algona, Iowa.—September 21.—First frost; ice formed a tenth of an inch thick. 22d, a violent storm swept over the prairies, being strongest between 11 a. m. and 1 p. m. 30th.—During the last ten days large numbers of wild geese passed over to the southward.

Independence, Iowa.—September 15.—Slight frost last night. 21st.—White

frost this morning; water standing in vessels skimmed over with ice; surface of ground stiffened.

Manchester, Iowa.—September 21.—Hard frost, the first to do any hurt; thermometer 29° at sunrise; ice three-sixteenths of an inch thick.

Guttenberg, Iowa.—September 14.—First flock of cranes going south. 15th.—First white frost seen in spots this morning. 30th.—The month has been very calm, the wind at no time above a very light breeze.

Council Grove, Kansas.—September 1.—Between noon and 1 p. m. the whole heavens seemed full of grasshoppers, course southwest. By 2 o'clock they began to alight, and in fifteen minutes every available bush and all herbage became loaded. 2d.—Multitudes of them are leaving to-day; there still remain over half their number; entire cabbage-heads are eaten by them, and cornfields stripped of their leaves. 15th.—There still remain enough to destroy what is left of vegetation; farmers have stopped sowing wheat, as it is devoured as soon as up.

Bellevue, Nebraska.—September 21.—Frost killing tops of grass and vines, and injuring late corn considerably.

Richland, Nebraska.—This was the coldest September in eight years, and, except the last week, was very showery and wet.

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